

Claims

[1] A method of manufacturing an image display panel, having one or more cells formed in an isolated manner from one another by partition walls and accommodating image display media and a plurality of image display elements, in which the image display media are sealed between opposed two substrates, at least one of the two substrates being transparent, and, in which the image display media, to which an electrostatic field is applied, are made to move so as to display an image, characterized in that the improvement comprises the steps of:

5 manufacturing a substrate with the partition walls on one substrate; applying an adhesive mixture obtained by mixing a photo-curing resin and a heat-hardening resin on the partition walls; and then connecting the other substrate to the partition walls through the adhesive mixture.

10 [2] The method of manufacturing the image display panel according to claim 1, wherein a composition of the adhesive mixture is 1 - 80 wt% of the photo-curing resin and 20 - 99 wt% of the heat-hardening resin.

15 [3] The method of manufacturing the image display panel according to claim 1 or 2, wherein the photo-curing resin includes a photoinitiator and the heat-hardening resin includes a hardening agent.

20 [4] The method of manufacturing the image display panel according to one of claims 1 - 3, wherein the image display media are sealed between the partition walls by: applying the adhesive mixture on the partition walls of the substrate with the partition walls; photo-curing the adhesive mixture once; filling the image display media between the partition walls; and connecting the other substrate to the partition walls by performing a heat-hardening under a pressurized state.

25 [5] The method of manufacturing the image display panel according to claim 4, wherein the image display media remaining on the partition walls are removed, after filling the image display media between the partition walls and before connecting the other substrate to the partition walls.

30 [6] A method of manufacturing an image display panel, having one or more cells formed in an isolated manner from one another by partition

walls and accommodating image display media and a plurality of image display elements, in which the image display media are sealed between opposed two substrates, at least one of the two substrates being transparent, and, in which the image display media, to which an electrostatic field is applied, are made to move so as to display an image, characterized in that the improvement comprises the steps of: manufacturing a substrate with the partition walls by forming the partition walls on one substrate; performing a washing by a dry treatment with respect to the thus manufactured substrate with the partition walls; applying an adhesive on the partition walls; and connecting the other substrate to the partition walls through the adhesive.

[7] The method of manufacturing the image display panel according to claim 6, wherein the washing by the dry treatment is performed with respect to the other substrate, before connecting the other substrate to the partition walls of the substrate with the partition walls.

[8] The method of manufacturing the image display panel according to claim 6 or 7, wherein, after performing the washing by the dry treatment with respect to the substrate with the partition walls, the image display media are filled between the partition walls before the adhesive is applied on the partition walls or after the adhesive is applied on the partition walls.

[9] The method of manufacturing the image display panel according to claim 6 or 7, wherein, after filling the image display media between the partition walls, the washing by the dry treatment is performed with respect to the substrate with the partition walls under such a state that the image display media are filled between the partition walls.

[10] The method of manufacturing the image display panel according to one of claims 6 - 9, wherein the washing by the dry treatment is performed by a washing method according to a treatment selected from UV ozone treatment using a low pressurized mercury lamp, UV ozone treatment using an excimer lamp, low pressurized plasma treatment, atmospheric plasma treatment, and corona treatment.

[11] A method of manufacturing an image display panel, in which particles or liquid powders are sealed in cells formed in an isolated manner from one another by partition walls between opposed two substrates, at least one of the two substrates being transparent, and, in 5 which the particles or the liquid powders, to which an electrostatic field is applied, are made to move so as to display an image, characterized in that the improvement comprises the steps of: manufacturing the partition walls on one substrate by means of a pale color resist; applying an adhesive colored by a dark color on the 10 partition walls; and connecting the other substrate to the partition walls through the adhesive.

[12] The method of manufacturing the image display panel according to claim 11, wherein the adhesive includes a filler having an average particle diameter of 0.5 - 20 μm .

15 [13] The method of manufacturing the image display panel according to claim 11 or 12, wherein a thickness of the adhesive is 0.5 - 20 μm .

[14] The method of manufacturing the image display panel according to claim 12 or 13, wherein the thickness of the adhesive is same as the average particle diameter of the filler.

20 [15] The method of manufacturing the image display panel according to one of claims 11 - 14, wherein the dark color of the adhesive is black.

[16] The method of manufacturing the image display panel according to one of claims 11 - 15, wherein the pale color resist forming the 25 partition walls is transparent or translucent.

[17] The method of manufacturing the image display panel according to one of claims 1 - 16, wherein the image display media are particles or liquid powders.

[18] An image display panel characterized in that the improvement is 30 manufactured according to the method of manufacturing the image display panel set forth in one of claims 1 - 17.